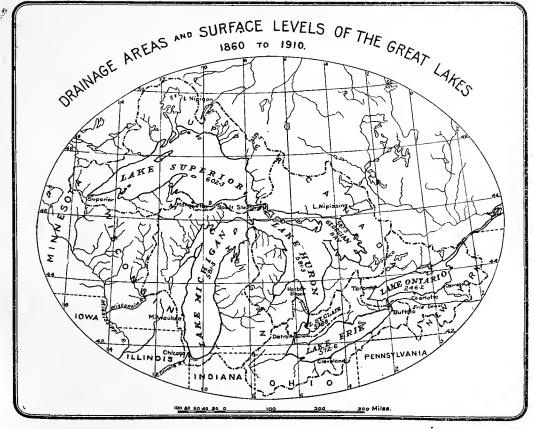


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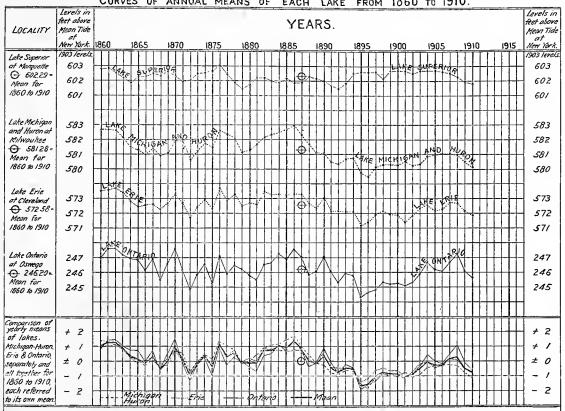


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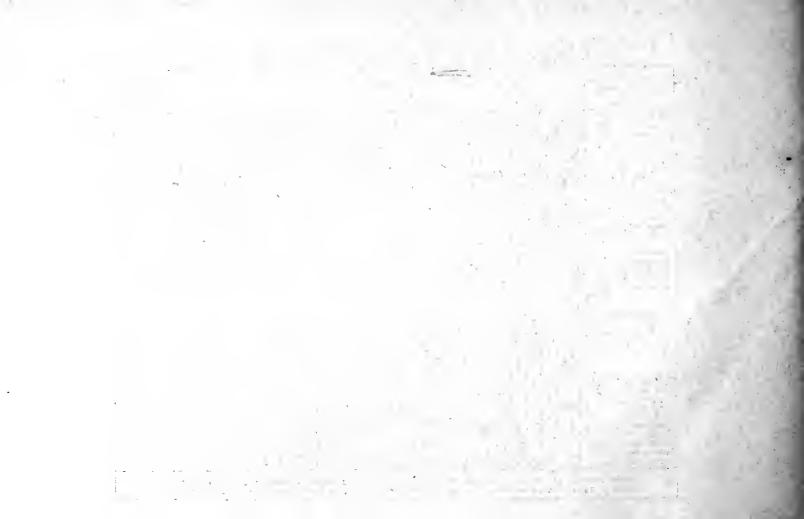
SURFACE LEVELS OF THE GREAT LAKES

CURVES OF ANNUAL MEANS OF EACH LAKE FROM 1860 to 1910.

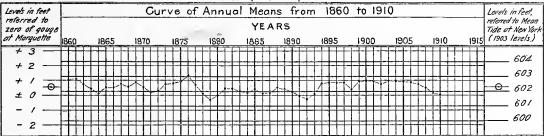


Under direction of Brigadier General W. H. BIXBY, Chief of Engineers, Washington, D.C., November, 1911.

Drawn in Office of U.S. Lake Survey. Based upon Records of the Lake Survey and other U.S. Engineer Offices.



SURFACE LEVELS OF LAKE SUPERIOR AT MARQUETTE, MICH.



Zero of Marquette gauge =601.75 above New York (U.S.Lake Survey level adjustment of 1903)

Mean level for 1876 or highest annual mean = 603.06, Highest monthly mean = 604.08, Sep 1869.

" " 1879 " lowest " " =601.43, Lowest " " =600.76, Feb 1871

" " Averages for 51 years or for 1860 to 1910 incl. =60229 (see -6- in side columns)

Curves of Monthly Means between 1860-1910.							
Levels in feet	L L.	Levels in feet					
referred to	rry mbe	referred to Mean					
zero of gauge	nuary briar) rich ne ne ne na na na na na na na na na na na na na	Tide at New York					
at Marquette	JEZ & Z J J K NON 9	(1903 levels.)					
		605					
<i>+ 3</i> —		604					
<i>+ 2</i>		603					
* 1 0	A B	-0-602					
± 0	a=>*(601					
-/-		600					
- 2							

A - curve of 1876 or year of highest annual mean

B = - averages for 51 years, 1860 to 1910.

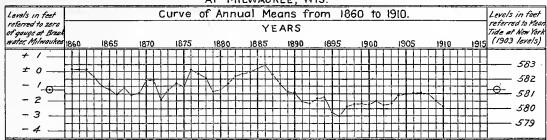
C = .. - 1879 or year of lowest annual mean.

-O- Represents the Average for 51 years, 1860 to 1910 incl. = 602-29.

Under direction of Brigadier General W. H. BIXBY, Chief of Engineers, Washington, D.C., November, 1911.

Orawn in Office of U.S. Lake Survey. Based upon Records of the Lake Survey and other U.S. Engineer Offices.

SURFACE LEVELS OF LAKE MICHIGAN AT MILWAUKEE, WIS.



Zero of Milwaukee gouge = 582.53 above New York (U.S.Lake Survey level adjustment of 1903.)

Mean level for 1886 or highest annual mean = 582.96. Highest monthly mean = 583.57 June, 1886.

" " 1896 " lowest " " = 579.47. Lowest " " = 578.98 Dec. 1895.

" " Averages for 51 years or for 1860 to 1910 incl = 581.28. (see — in side columns.)

Curves of M	1onthly Means betweer	1860-1910.
Levels in feet reterred to zero of gouge at Breokwater Milwoukee	Jonuary Herch March April May June July August August Ceptember October November	Levels in feet referred to Mean Tide at NewYork (1903 levels)
+ 2	A	584 583 582 581 580 579

A = Curve of 1886 or year of highest annual mean.

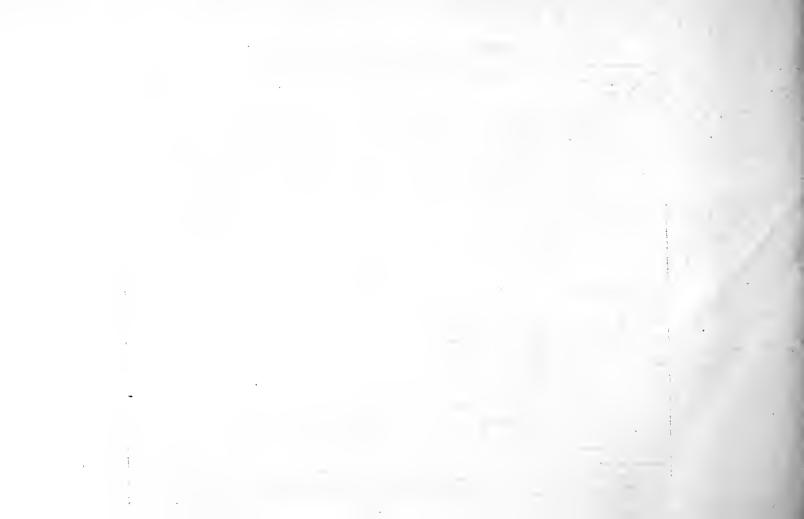
8= • • averages for 51 years, 1860 to 1910.

= - - 1896 or year of lowest annual mean.

- Represents the Average for 51 years, 1860 to 1910 incl. = 581-28.

Under direction of Brigadier General W. H. BIXBY, Chief of Engineers, Washington, D.C., November, 1911.

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SURFACE LEVELS OF LAKE HURON AT HARBOR BEACH, MICH.

Levels in feet			Cur	ve of A	Annual	Mean	s from	1875	to 1910.		Levels in feet
referred to zero of gauge at Harbor Beach	1860	1865	1870	1875	1880	YEA 1885	RS 1890	1895	1900 1905	1910	referred to Mea. Tide at New York (1903 Levels).
±0											583 582 581 580 579

Zero of Harbor Beach gauge = 583.21 above New York. (U.S. Loke Survey level adjustment of 1903.)

Mean level for 1886 or highest annual mean = 583.08 Highest monthly mean = 583.66. July 1876.

" " 1896 or lowest " " = 579.53 Lowest " " = 579.02. Dec. 1895.

" " Averages for 36 years or for 1875 to 1910 incl. = 581.19 (See —in side columns.)

		#35-kmm	477.77.44
Curves of M	ionthly Means	between	1875-1910.
Levels in feet referred to zero of gouge at Harbor Beach	January February March April May June July August	September October November December	Levels in feet referred to Mean Tide at New Yark (1903 Levels)
-/ -2	8	A B	584 583 582 581 580 579

A = Curve of 1886 or year of highest annual meon.

B = . . Averages for 36 years, 1875 to 1910.

C= - 1896 or year of lowest annual mean.

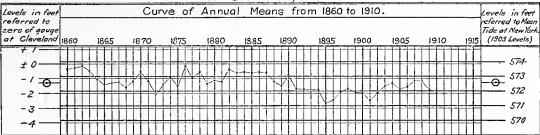
-⊖- Represents the average for 36 yeors, 1875 to 1910 incl.=581.19.

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SURFACE LEVELS OF LAKE ERIE AT CLEVELAND, OHIO.



Zero of Cleveland Gauge 573.82 above New York (U. S. Lake Survey Levels of 1903.)

Mean Level for 1876 or Highest Annual Mean = 573.70. Highest Monthly Mean = 574.52. June, 1876.

" 1895 • Lowest " = 571.17. Lowest " = 570.70. Nov., 1895.

" Averages for 51 Years or for 1860 to 1910 incl. 572.58 (see- Θ -in Side Columns.)

Levels in feet referred to CSL STATE
zero of gauge 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
zero of gauge 25% × 25550 0 Tide at New Yor of Cleveland 5125 × 25550 0 (1303 Levels)
+2 +/ ±0 575 574
<i>≠1 ±0 575 574</i>
±0 574
573
-2 8 572
E
570
-4

A = Curve of 1876 or of highest annual mean.

B= " Averages for 51 years 1860~ 1910.

C = " · 1895 or of lowest annual mean.

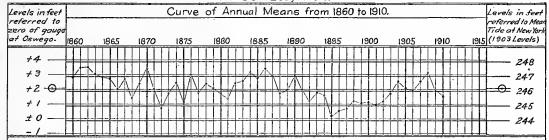
- Represents the Average for 51 years, 1860 to 1910 incl. = 572.58.

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SURFACE LEVELS OF LAKE ONTARIO AT OSWEGO, N.Y.



Zero of Oswego Gauge 244·12 above New York (U.S.Loke Survey level Adjustment of 1903.)

Mean Level for 1862 or Highest Annual Mean = 247·63 . Highest Monthly Mean = 248·95, May, 1870.

" " 1895 " Lowest " " = 243·41, Nov. 1895.

" " Averages for 51 years or for 1860 to 1910 incl. = 246·20 (see-\(\theta\)- in Side Columns.}

Curves	of N	101	ntł	ıly	M	leo	ne	3]	oe	we	гe	n 1860	-1910.
Levels in	feet						5	-	ı.			Leve/s	in feet
referred	to-	ح	<u> </u>			4	- 4	3	<u>.</u>	per		referre	d to Meon
zero of g	auge	g.	200	12.0	×2	_	Show Show	2 4	over	scen		Tide an	New York
at Oswe	90	-2	'nΣ	₹2	-5	اير	ζý	ŠĊ	ž	ă		(1903	Levels)
+5		Ц	Ц		Ц	┸							249
+4				\overline{V}	\mathbb{N}	$\overline{\Lambda}$	Γ			T			
+3		A		1			7			Τ		_	248
			7	P		1	K		7	И	Г		247
72	⊕	6	7	T	П	T	T	7	7	В	Г	_0_	246
+/		c	Ħ	7		1		Ħ	+	T	F		245
±0		+	H	+	H	Ŧ	Ì	₹		_	H		244
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A= Curve of 1862, or year of highest annual meon.

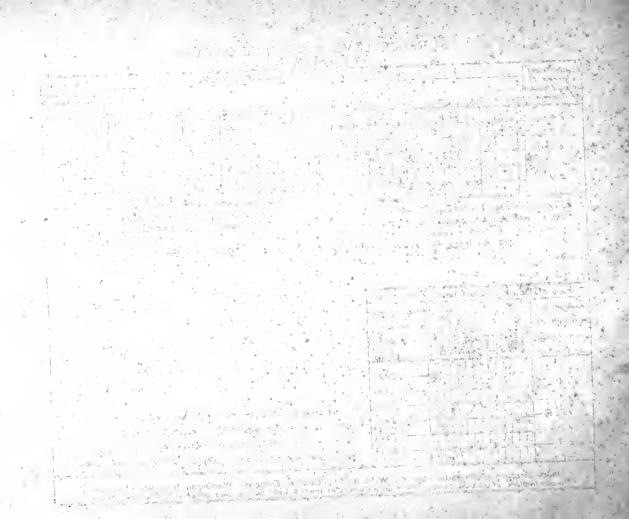
B = . Averages for 51 years, 1860 to 1910.

C= " 1895, or year of lowest annual mean.

- Represents the Average for 51 years, 1860 to 1910 incl. = 246-20.

Under direction of Brigodier General W.H. BIXBY, Chief of Engineers, Washington, D.C., November, 1911.

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